We Are All Treaty People: A Reflection and Research-Based Look at Incorporating Indigenous Content into Saskatchewan High School Arts and STEM Classrooms

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Abstract

Within the Saskatchewan curriculum, one goal of K-12 education is ensuring that students come out of classrooms knowing that they, like all Canadians, are treaty people. This focus is touched on in select curriculum guides and within the Treaty Education Outcomes and Indicators document that has been in use by the Saskatchewan Ministry of Education since 2013. While measures such as these have made the province seem to be ahead of other Canadian provinces in terms of Indigenous education, more needs to be done to ensure that this content is implemented into subject matter throughout the curriculum. The focus of this paper is on implementation methods and examples in high school Arts and STEM classrooms, as research from select organizations and from other Canadian education ministries reveals that Indigenous content can be implemented into the curricular outcomes present within these subjects. The culmination of this research looks into how the implementation of Indigenous content can aid in both the teaching of Canadian Reconciliation and in furthering the use of anti-oppressive education of which Indigenous education is a part.

Keywords: pedagogy, indigenizing education, Saskatchewan curriculum, high school education, anti-oppressive education

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The goal of education at the K-12 level is to help youth become engaged and responsible citizens (Ministry of Education, 2008). Part of this means ensuring that students have the knowledge and academic abilities needed to move on to post-secondary education or the workforce. This focus, however, is only one part of helping students become engaged citizens. Based on Saskatchewan education curricula, focus should also be placed on ensuring that students come away from classrooms with the understanding that they, like all Canadians, are treaty people (Ministry of Education, 2012). According to a Regina-based educator in the public school system, this requires that individuals understand the “role that treaty negotiations play in our shared and collective [national] history” (Perry Elementary School, 2023, para. 2). Extending beyond this idea, helping students become informed citizens involves an understanding of both the treaties and the concept of Reconciliation. The Truth and Reconciliation Commission of Canada defines the latter as “an ongoing process of establishing and maintaining respectful relationships” (Canada’s Association of Petroleum Producers, 2023, para. 7). Reconciliation is important to teach in schools to help students understand the devastating legacy of residential schools. According Marie-Claude Landry, Chief Commissioner of the Canadian Human Rights Commission (2021), the history of residential schools (and more broadly the history of disrespectful relations with Indigenous groups) “is [Canada’s] past…, present…, [and] shame” (para. 3). Landry states that everyone in Canada must “understand how the atrocities of our past still linger today,” especially students who will be the future of Canada (para. 9). Thus, Indigenous content should have a place in every classroom setting and should extend beyond social-based curriculums to foster an understanding within students that such content has a diverse scope. For this paper, I will be focusing on English Language Arts (ELA), arts, and math and science (STEM) education in a high school context. However, it is important to bear in mind that integration of Indigenous content is necessary at every grade level and subject from K-12. Although it is still common to see classrooms omit discussions of Indigenous content, the implementation of such content should happen in every course to meet the demands of both Reconciliation as well as the outcomes listed in Indigenous-focused ministry documents.

I came to researching this topic after reflecting on my duty as a teacher candidate in the University of Saskatchewan College of Education. I acknowledge my existence as a European settler on Treaty Six Land. I give thanks to all I have learned about teaching and learning from an Indigenous lens, and I recognize that my duty to understand this topic is rooted in my professional task with helping students recognize that they are treaty people.

It is important to understand the benefits and limitations of what is currently being done in the province before analyzing ways to implement curriculum-based Indigenous education. At a surface level, Saskatchewan appears to be doing a good job compared to other locations in Canada (Mashford-Pringle & Webb, 2022). For example, researchers at the University of Toronto found that Saskatchewan’s curricular inclusion of Indigenous languages and the existence of the 2013 “Treaty Education Outcomes and Indicators” document far surpasses what other provinces such as Quebec and New Brunswick are doing (Mashford-Pringle & Webb, 2022). One can attribute this to the ways in which teacher candidates learn within the province, as both the University of Saskatchewan and the University of Regina incorporate “Indigenous knowledge and treaty education” in their education programs (Martin, 2017, para. 16). Still, there is evidence for the necessity of further inclusion. For example, research conducted by the Canadian Teachers’ Federation showed that only 20% of teachers believed their current knowledge of Indigenous content was substantial enough to lead to proper teaching of the material (Mashford-Pringle & Webb, 2022). This becomes more pertinent when considered systemically, as teachers’ lack of knowledge has been found to lead to higher drop-out rates for Indigenous students as well as to the denial of racism by teachers in educational settings (ACLRC, 2021; Bonam et al., 2018). Additional evidence for the necessity of further inclusion is a statement from Saskatchewan’s prior Education Minister (and current Minister of Justice and Attorney General), Bronwyn Eyre, who said that the incorporation of Indigenous content throughout the Saskatchewan curriculum has
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Indigenous voices have a place within select literature in ELA classrooms. Indeed, I had the opportunity to study numerous works by Indigenous authors in my high school. For instance, I studied Drew Hayden Taylor’s play Only Drunks and Children Tell the Truth (1998) in grade 10 and both Taylor’s play Someday (2015) and Gord Downie’s graphic novel The Secret Path (2016) in grade 12. While these novels vary in subject matter from discussions of Indigenous culture to intergenerational trauma, the linking factor is that they all highlight Indigenous lived realities (and are mostly written by Indigenous authors). Integration of texts such as these connects to the concept of Reconciliation by fostering an appreciation for Indigenous voices and lived experiences (Zepick, 2022b). Importantly, these texts also meet curricular outcomes throughout the 9-12 ELA curriculums. For example, outcomes CR9.1a and CR9.1b in ELA 9 state that students should work with texts that address “identity,” “social responsibility,” and “efficacy” (Ministry of Education, 2008, p. 33). Indigenous-centered texts hit on all three of these categories by stressing the importance of cultural identity, the need for Reconciliation (which students achieve through a commitment to social responsibility), and the importance of allowing Indigenous voices to be heard (through an engagement with efficacy) (Zepick, 2022b). Similar outcomes can be found in the ELA 10, 20, and 30 curriculums (i.e. CR A10.1, CR B10.1, CR 20.1, and CR A30.1); all of which call for the teaching of texts that address “identity,” “social responsibility,” and “social action” (Ministry of Education, 2011; 2012; 2013a, p. 40). Looking specifically at the topic of social action, Indigenous-centered texts teach this concept by suggesting the need for Canadian society to engage with Reconciliation.

There are other ways for educators to incorporate Indigenous content into ELA classrooms. For example, students may develop mock radio dramas on Indigenous issues or write a review on the portrayal of Indigenous individuals in culturally insensitive western movies (British Columbia Ministry of Education, 2006, p. 71). These would fit into outcomes throughout high school grade levels. Looking at 9th grade, for instance, the listed examples would fit into CC9.9 (which asks students to experiment with text forms such as audio presentations) and CR9.4a (which asks students to interact with multimedia texts such as video clips) (Ministry of Education, 2008). Another possibility would be having students engage with oral storytelling traditions by doing readings for the class or attending storytelling sessions from elders (Houseman, 2023). Looking at the ELA 20 curriculum, for instance, this would fit into CC20.1 (which asks students to create oral texts that address identity) and CR20.2 (which suggests that students interpret First Nations texts) (Ministry of Education, 2012). Both of these ideas necessitate student engagement with Indigenous content in ways that promote understanding of culture and the need for Reconciliation.
While the existence of lesson ideas such as the ones above suggest that teachers are incorporating Indigenous content into ELA classrooms, there is evidence to suggest that such implementation is not wide-spread enough. For example, a researcher from the University of Saskatchewan has found that Indigenous students in ELA classrooms sometimes suffer due to lack of Indigenous representation and teaching methods that often result from teacher-based resistance to such incorporation (Balzer, 2006). Thus, the above-mentioned teaching strategies are worth highlighting in service of advocating for widespread inclusion.

**Incorporating Indigenous Content into Arts Courses**

In arts courses, subjects like drama, music, dance, and visual art can also feature an Indigenous focus. For example, within my high school we had a 9th grade gym unit on Indigenous hoop dancing that brought Indigenous conceptions of art into the school. This would fit into Physical Education outcome 9.5, which asks students to develop complex skills such as dance (Ministry of Education, 2009) while simultaneously fitting into Arts Education outcome CP10.1, which asks students to “investigate creative processes [such as dance] for producing arts expression” (Ministry of Education, 2021, p. 29). The idea of familiarizing students with Indigenous dance elements comes from a document put out by the British Columbia Ministry of Education (2006), in which Indigenous dance is said to help students “explore issues such as space, dynamics, tempos, and the principles of movement” (p. 65). Thus, the use of Indigenous dance in classroom settings not only highlights Indigenous voices and artists by bringing hoop dancers into the school, but also helps students tap into kinesthetic learning potentials through Indigenous understandings.

Music can also incorporate Indigenous content. Although I did not engage with Indigenous music in my high school, I crafted and painted my own spirit flute in elementary school. This activity could also occur in high school music classrooms to promote an appreciation for Indigenous forms of music. Such an inclusion would work well with the Music 30 curriculum and, in particular, outcome CR30.1, which asks students to look at the “ways in which contemporary Canadian First Nations music reflects social and cultural contexts” (Ministry of Education, 2020, p. 25). Another idea would be to have students write reports on local or national Indigenous musicians such as Tanya Tagaq or Forrest Eaglespeaker. Notably, both artists focus their music on Indigenous activism and culture (Zepick, 2022a; MBC News, 2019). This inclusion would promote Reconciliation by bringing Indigenous voices and culturally sensitive activism into the classroom.

Drama is another arts subject that can promote Indigenous understandings and content. For instance, performing Indigenous plays in drama classrooms can promote culture while also engaging students in acting and performance. This would fit into the Drama 20 curriculum, in which indicator CP20.3 asks students to look at “perspectives of the ‘other’ through works of dramatic art” (Ministry of Education, 2019, p. 24). The British Columbia Ministry of Education (2006) supports this idea by suggesting that students engage in “research[ing] and perform[ing] dramatic materials written by… [Indigenous] playwrights” (p. 68). This could take the form of short performances based on Indigenous scripts. An example of such a script would be “Harvesting with Rocks,” which is a short four-page play put out by the Canadian Department of Fisheries and Oceans in a document entitled “Fish in the Floodlights” (n.d). The play follows four school-age children who have a conversation about fishing rights and the protection of freshwater salmon. Having high school students perform a play such as this one would bring Indigenous content into the classroom while also teaching students about Indigenous worldviews and connections to nature (Zepick, 2023).

Visual arts and hands-on creative activities also have the potential to connect to Indigenous content. This might mean having students work with local Indigenous artists to make works of art using traditional tools (British Columbia Ministry of Education, 2006, p. 111). For example, students could make traditional paints, bead using Indigenous methods, or utilize shape-based patterns in works of
visual art (Alberta Regional Professional Development Consortium, n.d.). All of these ideas would fit into Arts Education CP20.2, which asks that students engage in “a variety of visual arts practices... [while] including perspectives of First Nations and Métis people in Saskatchewan” (Ministry of Education, 2019, p. 2). An alternative idea that hits on the same curricular outcome comes from a document entitled “Teacher’s Guide: Senior Art Activities” from Indigenous Arts and Stories (n.d.), in which the author suggests that teachers use a photography assignment to teach students about the Indigenous concept of finding one’s “sense of place” (p. 3). Here, the teacher would give a lesson on the importance of the home within an Indigenous worldview and then instruct students to create a photo gallery of locations that feel like home to them. Activities such as these would not only foster a deeper appreciation of both Indigenous worldviews and works of art but would also link to Reconciliation by allowing students to develop respectful and reciprocal relationships with collaborating Indigenous artists.

Teachers are doing some of this work in Saskatchewan classrooms. Yet, there is not much data on how often arts teachers are using Indigenous knowledge. I maintain that the biggest downfall in need of addressing — in work toward Reconciliation and including Indigenous content in Saskatchewan education curricula — is passivity in curriculum documents. While some of the outcomes I have mentioned above do specifically call for Indigenous content, others are quite passive (such as the vague call for ‘othered’ voices in CP20.3). While this would require curricular change at the policy-level, it does suggest that teachers could benefit from further inclusion-methods in support of active integration.

Incorporating Indigenous Content into Science and Math (STEM) Courses

Educators can also bring Indigenous understandings into STEM classrooms. According to research from the University of Saskatchewan, it is common for Indigenous content to be left out of STEM classrooms and thus for students to not see cultural inclusion beyond a Western scope (Michell et al., 2008). However, such inclusion is crucial in helping both Indigenous and non-Indigenous students interact with the natural world around them in a way that honours Indigenous connections to the land. Research from the University of Alberta justifies this notion, as it has been found that “educational efforts must value students’ cultural backgrounds and lived reality and help them navigate between the culture of their everyday life and [that of] ... Western modern science [and math]” (Jin, 2021, p. 11).

Looking first at high school math classrooms, teachers can incorporate both Indigenous topics and ways of knowing. In my high school, for example, we had a 9th grade Math unit on Indigenous statistics. Students conducted research and presented a statistical infographic on an aspect of Indigenous existence such as educational attainment rates or life expectancy. This would fit into the Mathematics 9 curriculum through outcome SP9.2, which asks students to “collect, display, and analyze... data through a project” (Ministry of Education, 2009a). Projects such as this one provide evidence for how students can learn content that aids in Reconciliation while also meeting curricular math outcomes. Another way to bring this learning forward would be to have students analyze the use of geometry and patterns in Indigenous design and architecture (British Columbia Ministry of Education, 2006, p. 82). For example, students could interact with mathematical concepts of circles and the formulas used for the shape in relation to the Indigenous belief that a circle is “a sacred symbol of the interdependence of all forms of life” (Stevenson, 1999, p. 9). Students could then construct their own dream catchers and work with the geometric shapes found within (Giesbrecht, 2019). In Mathematics 9, this example would fit into outcomes SS9.1 and 9.3, which ask that students understand the characteristics of circles and of various 2-D shapes, respectively (Ministry of, 2009a). Teachers could also instruct students to build their own model teepees and calculate the dimensions of the products used. In Foundations of Mathematics 20, this example would fit into outcome FM20.2, which asks students to understand the reasoning needed to solve problems
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Incorporation of Indigenous concepts and ways of knowing into science teachings fosters a holistic understanding of the world that students engage with. According to The Conference Board of Canada (2020), Indigenous and Western approaches to science differ in that the former focuses on “interconnectedness” and “interrelations” while the latter focuses on “quantitative” and “compartmentalized” approaches (p. 3). As such, indigenizing education at this level means stepping away from the “mechanistic” view that nature and science are separate from humans and instead focusing on a mindset where “reciprocity” and “peaceful” co-existence exists between humans and the scientific world (Michell et al., 2008, p. 35). The only memorable addition of Indigenous content in my high school science classes was the use of Pearson science textbooks which incorporated Indigenous examples. However, these only go up to grade 9 (Incorporating Indigenous Cultures and Realities in STEM, 2020). This means that the rest of my science courses largely left out the teaching of Indigenous content—an issue which necessitates remedying.

Looking to expand on the use of Indigenous concepts in science classrooms, researchers from Yale University suggest using Indigenous drumming to explore wave patterns in physical science (Teaching Indigenous Studies-- Resource Guide, 2021). Although this idea comes from American-based pedagogy, it has scope in the Saskatchewan curriculum because it is useful for showing students that Indigenous content can exist across the school curriculum. Furthermore, this would fit into the Physical Science 20 curriculum through outcome PW1, which asks students to “investigate the properties and characteristics of… waves in… different media” (Ministry of Education, 2016, p. 32). Another idea would be to study the use of planets and stars for navigation in a space unit or to invite Indigenous elders in to talk about the cyclical connection that Indigenous people have with nature in a natural science unit (British Columbia Ministry of Education, 2006). The former idea would fit into the Science 9 curriculum, in which outcome EU9.3 asks students to look at “how various cultures, past and present, including First Nations and Métis, understand and represent astronomical phenomenon” (Ministry of Education, 2009c, p. 29). The latter idea would fit into the Science 10 curriculum, in which outcome CD1 asks students to examine how human actions impact the world and ecosystems (Ministry of Education, 2015). These examples help to integrate Indigenous content with Western scientific approaches. I agree with scholars that the hypothetical result of such integration would be a decrease in purely Western views in favor of views that highlight Reconciliation and the harmonious integration of both worldviews (Michell et al., 2008, p. 30).

While the above ideas provide evidence that some of this work is already being done in classrooms, further evidence supports that this inclusion needs to be more widespread. For example, the Conference Board of Canada (2020) has found that, while Indigenous people account for 4% of people in Canada, they make up less than 2% of those working in STEM fields. The board attributes this disparity to the tendency for Indigenous students to opt-out of science courses at the high school level, which suggests that teachers should increase the inclusion of Indigenous understandings. This also supports my claim that teachers are not amply using STEM-based Indigenous pedagogy such as the examples that I have outlined above.

Treaty Education and Reconciliation

The integration of Indigenous content throughout the high school Saskatchewan curriculum is a worthy endeavor largely because it works towards Reconciliation. While I have provided connections to Reconciliation throughout this paper, generalization of the topic further shows why indigenization is worthwhile. In recent years, the Truth and Reconciliation Commission mandate has called for “action to advance Reconciliation… by supporting Indigenous students’ success and fostering among all students an understanding…” of Indigenous
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We Are All Treaty People” (Milne & Wotherspoon, 2020, p. 1). This fact supports my argument that incorporating Indigenous content for the Reconciliation-based benefit of both Indigenous and non-Indigenous students is possible.

Implementation is also important because it aids in course-wide inclusion of the Ministry of Education’s “Treaty Education Outcomes and Indicators” document. According to the document, treaty education is mandatory in K-12 education because “[t]here must be an appreciation in the minds of the general public that treaties are living, breathing documents that continue to bind us to promises made generations ago” (Ministry of Education, 2013b, p. 3). While implementation of the specific outcomes happens on a class-by-class basis by the classroom teacher, the main takeaway is that teachers can and should implement treaty education in every classroom at the high school level. Although my report has not provided specific ways to implement information about the treaties, the implementation of Indigenous content and worldviews is important to gain an understanding of what life has been like for Indigenous peoples before, during, and after individuals signed the treaties and initial contact occurred. The concept of treaty education also connects to the general goal of maintaining respectful and interconnected relationships between all peoples of Canada. This is because the duty of treaty people is to understand how a “shared and collective [national] history was created” (Perry Elementary School, 2023, para. 2). Thus, gaining an understanding of Indigenous content provides the background knowledge of Reconciliation needed to understand the treaties.

Connections to Anti-Oppressive Education

Incorporation of Indigenous content throughout the high school curriculum is part of anti-oppressive education and links to a variety of other topics within the anti-oppressive framework. According to research compiled by the University of Saskatchewan (n.d.), anti-oppressive education is the process of developing “critical consciousness,” by undergoing an “awakening process” in which the educator learns about “the social, economic, cultural, educational and spiritual inequities and disparities” that exist within the world (para. 2). This process is commonly applied to systems of inequality such as homophobia, sexism, social class disparities, and racism (Houseman, 2023). Looking first to connect Indigenous content to combating homophobia and sexism, classroom discussions surrounding queer Indigenous identity and Two-Spirit individuals could occur in high school health, social, and ELA classrooms. This idea is supported by Stevens (n.d.) from Canada C3, who suggests incorporating the history of Two-Spirit individuals into history and social curricula and opening with the Essential Question, “What has been the experience of Two-Spirit peoples throughout history?” (p. 1). The lesson plan could then involve students interacting with both written and visual materials that explain the history of Two-Spirit existence and culminate in a discussion about Two-Spirit existence today (Stevens, n.d). Although this document comes from an Ottawa-based source, the content also links to Saskatchewan curricula such as outcomes that connect to identity within various ELA documents. This is a worthy endeavor in service of making classrooms into queer safe-spaces and fostering within students an understanding of the importance of Two-Spirit individuals within the 2SLGBTQIA+ group.

Teachers could also make connections between sexism and Indigenous content through discussions regarding the ongoing tragedy of Missing and Murdered Indigenous Women and Girls (MMIWG). This topic could undergo analysis in social classrooms. For example, students could interact with a teacher-based lesson on the history of MMIWG before being instructed to conduct solo research and produce a written product on the No More Stolen Sisters movement, which is a “human rights response to discrimination and violence against Indigenous women” that is supported by Amnesty International (Amnesty International, 2023). This would also fit into various outcomes in the ELA A30 document provided that the project comes after a novel study on a similar topic. For example, outcome CR A30.2 asks students to work with ideas present in “First Nations, Métis, Saskatchewan, and Canadian visual
and multimedia texts” (Ministry of Education, 2013a, p. 41). Teachers would do well to educate students on this topic to help spread awareness of the systemic issues of sexism and poverty that influence MMIWG. It is only through increased awareness and activism that these issues can start being rectified.

Teachers can also link social-class disparities to Indigenous content to help students grasp the correlation between Indigenous individuals and the cycle of poverty. For example, students could examine myths associated with impoverished people (i.e., that they are lazy, do not want to work, etc.) and how some of these myths have also become examples of harmful Indigenous stereotypes. This would fit into the Social Studies 9 curriculum through outcome IN9.2, which asks students to understand the “factors that shape worldview in a society... such as socio-economic situation” (Ministry of Education, 2009d, p. 20). Breaking down these stereotypes in classroom settings is crucial for understanding the need for Reconciliation. The need for breaking down Indigenous stereotypes also connects to the overarching concept of racism, as negative conceptions of Indigenous peoples are often supported by ingrained forms of prejudice on the part of students (Houseman, 2023). Hagerman (2019) supports this notion by stating that, “[b]y age eight, White kids... exhibit an increase in implicit forms of prejudice” (para. 4). Thus, integrating culturally appropriate material is crucial with regard to helping students develop well-informed perceptions of people of color.

Taken together, the above-mentioned examples provide ways to help students understand the link between Indigenous existence and intersectional forms of oppression. The wide-spread benefit of developing this link is increased advocacy and awareness of how Indigenous people can be impacted by systemic oppression. Discussions on these topics can also aid in the creation of a classroom ‘brave space,' in which educators task students with discussing socially-important and tough topics in a way that allows for mistakes and activism (Harvard Graduate School of Education, n.d.).

Conclusion

Although classrooms still commonly omit discussions of Indigenous content, the use of Indigenous knowledge is worthwhile and has scope in both Reconciliation and the “Treaty Education Outcomes and Indicators” document. Notably, the completion of this report has changed my thinking by showing me that the implementation of Indigenous content throughout the curriculum has the potential to be more than just a ‘nice idea’ on the path towards Reconciliation. While I have long heard about the importance of incorporating Indigenous education into school curricula, I used to believe that doing so would be challenging outside of art and humanities classrooms which lend nicely to the implementation of works from Indigenous writers and artists. I did not believe it would be practical to fully implement Indigenous content into STEM classrooms where the focus is on Western ways of knowing. Having written this report, I have learned that teachers can implement Indigenous content into any high school curriculum, even STEM courses, which historically have not done so. While the shift towards an approach that values both Western and Indigenous worldviews will require educators to take on new ways of thinking and approaching educational pedagogy, the potential benefits are undeniable and crucial in a society that is now focused on Reconciliation (Zepick, 2022b).
References


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